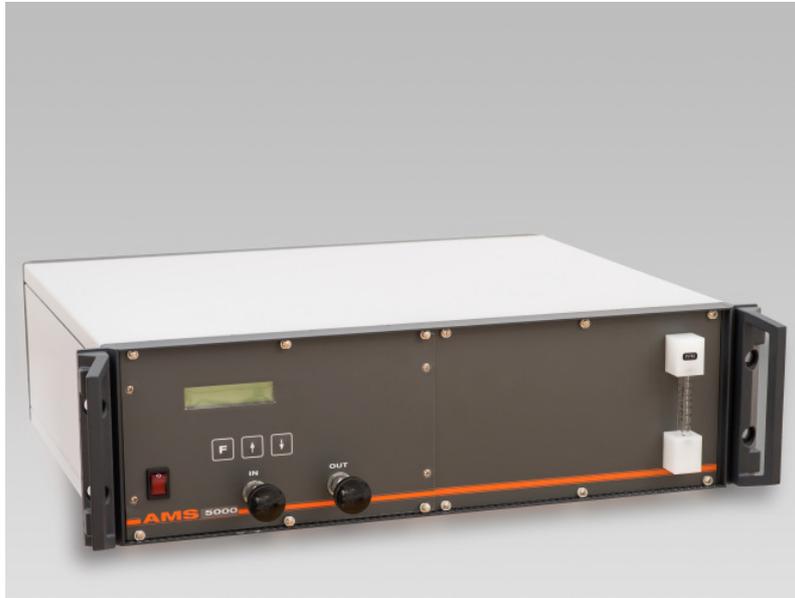


## Oxygen Analyser for applications in the Vol. % - Range AMS 5225



available options:

pressure reducer  
particle filter 2-7 $\mu$ m  
manual 5 way valve  
electronical/pneumatic gas supply pump  
electronical flowmeter  
auto-Calibration  
2 free adjustable measuring values  
different housings

### The Application:

The Oxygen Analyser AMS 5225 is equipped with a electrochemical sensors for the measurement of Vol. % concentrations. The analyser AMS 5225 is a micro-processor equipped instrument for highly accurate measurements off Oxygen in the Vol. % range. Changes in the Oxygen concentration < 0,1 Vol. % can be determined with a resolution of 0,01 Vol. %. The analyser is available in housings for General Applications.

### The Measuring principle:

The electrochemical sensors for the measurement of trace oxygen are mainly consisting of five components:

- Oxygen sensitive cathode
- Anode
- Electrolyte
- Diffusion membrane
- Housing with electrical connections

The measuring gas diffuses through a membrane to a thin layer of electrolyte. At the cathode the oxygen reduces. The free flowing electrons are drifting to the Anode. This generates an electrical current which is direct proportional to the oxygen concentration of the measuring gas. The use of electrochemical sensors allows in standard applications the measurement of trace oxygen in a number of complex and aggressive gas mixtures. The fitting sensor for a specific application has to be selected considering the different available electrolytes and electrodes. It is therefore essential to know the physical and chemical application parameters such as temperature, gas pressure, humidity content and the consistency of a specific measuring gas. The operational life time of an electrochemical sensor is determined from the PPM-hours a sensor exposed to oxygen. Therefore the sensors have a shorter life expectancy in air than in low PPM-Oxygen concentrations. The life time in air is usually only a few months, but 3 years or longer in PPM-Oxygen concentrations.

## **The Measuring system:**

The Oxygen Analyser AMS 5225 consists of an electronic, the pneumatic components for the gas supply and flow control, installed in an electronic housing 28 TE / 3 HE. The analyser can be equipped with a pressure reducer for max. 10 bar (abs.) to protect the sensor against high gas pressure. The Oxygen Analyser AMS 5225 is the ideal system for automated process control. A micro processor controls the electronics and the display.

## Technical Data

|                                   |  |
|-----------------------------------|--|
| Analyser                          | <b>AMS 5225</b>  |
| Measuring principle               | Electrochemical oxygen sensor  |
| Application                       | Soldering machines<br>Welding technology<br>Gases Industries<br>Chemical Industries  |
| Measuring range                   | 0 ... 25 Vol. %  |
| Analogue signal port              | (0) 4 ... 20 mA or 0 ... 10V, galvanically separated   |
| Reproducibility                   | +/- 2 % of the measuring value   |
| Resolution                        | 0,01%  |
| T90-Time                          | ca. 20 Seconds   |
| Display                           | 2* 16 digit, illuminated LCD display<br>1. Line: display of concentration in ppm or Vol %<br>2. Line: Messages, device status, sensor parameters   |
| Messages                          | 1 system message (measuring value yes / no)<br>max. 2 messages configurable as oxygen value,<br>calibration message, measuring value in the range, flow rate   |
| Gas connection                    | inlet / outlet 3 / 6 mm ferrule pack   |
| Sample flow                       | min. 30 NI/h, max. 50 NI/h   |
| Sample pressure (inlet)           | min. 1,01 bar abs., max. 10 bar abs.   |
| Digital communication             | serial interface RS232   |
| Ambient operating temp.           | + 5 °C up to + 60 °C   |
| Power supply                      | 110 ... 230 VAC or 24 VDC  |
| Protection / Housing / Dimensions | IP20 / electronics unit 28 TE / 3HU<br>IP65 / wall mounting housing / ca. 300 x 260 x 130 mm (hxbxt)<br>IP54 / portable housing 42 TE / 3 HU<br>IP 54 / panel mounting 144 x 144 mm  |
| Weight                            | 2,5 kg ... 10 kg depending on housing and built-in options   |
| Options                           | pneumatic pump<br>mechanical and electronic flow analysis<br>software for remote display and service<br>max. 4 measuring ranges automatically switching with digital range detection<br>Manual 5 way valve<br>auto-calibration<br>pressure regulator |
| Version: AMS 5225 E V-2013-07     |  |

Specification subject to change